

Disease Patterns and the Team Approach in the Practice of Family Medicine

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IN CLEAR CONTRAST to the episodic crisis care rendered by the generalist of bygone years stands the new concept of care and concern by the family physician whose services have been characterized as continuous and comprehensive. Both kinds of physicians use the multidisciplinary approach, but an all-important difference in attitudes has been clearly recognized and defined (1, 2). The authors are committed to the concept of the family physician, put great emphasis on this difference in attitudes, and make every effort in the training of young physicians to formalize the holistic approach to the care of their patients (3).

We stress the inevitable links among a person's health, emotional well-being, the physical

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and emotional health of his family, his social and economic status, his cultural background, and his place in the community—in other words, his health with his total life situation.

We endeavor to include as many members of a patient's family as possible in the family practice program at Lutheran Medical Center. We believe strongly in the importance of visits to the patient's home; these are invaluable in understanding his lifestyle.

Lutheran Medical Center has a residency program in family practice which has been approved by the Council on Medical Education of the American Medical Association. The hospital is located in Sunset Park, an area of low-income families in Brooklyn. The majority of the patients are of Spanish descent, but intermixed are some families with Negro, German, or Irish heritages. We operate within the walls of a neighborhood health center, three blocks from the base hospital. We consciously use the team approach in rendering total care to patients.

As an illustration of our approach, we will relate the medical and social history of one family for whom a resident at the center acted as primary physician during his training period. We will describe the specific illnesses, the pattern of diseases in the family, and the team's attempt to help solve their many problems.

Family Case Report

The five members of this black family are the father, 45 years; mother, 44 years; son, 12 years; daughter A, 16 years; and daughter B, 7 years. They came from Puerto Rico to New York City 5 months before the father's first visit to the medical center's department of family practice. Their income consisted of welfare assistance of \$168 every 2 weeks. Their four-room apartment was clean but rather poorly furnished, and the rent was \$100 per month. No one in the family had been educated beyond the elementary school level. Their knowledge of the English language was scanty.

Our first contact was an office visit of the father, who consulted us because of his frequent convulsive seizures. In his history he stated that his son suffered from similar attacks, and the son had never received medication. We recommended that

all members of the family come for physical examinations.

To insure that they would come, our public health nurse visited the family and discussed the importance of a complete medical investigation; she also helped to arrange the appointments. Subsequently, Huang made a home visit in the company of a Spanish-speaking family health aide. We wanted to demonstrate the concern of the family physician, gain the family's confidence, and obtain some knowledge of their environment, housing, lifestyle, and socioeconomic situation—information which we consider essential for the total understanding and evaluation of our patients.

Abstracts of Case Histories

In addition to the following individual case histories, the results of laboratory studies, which were part of the examination of each member of the family, are given in the table.

Father. The father reported that he had had convulsive seizures for the past 16 years. He had previously been hospitalized for status epilepticus and had subsequently received crisis care in the emergency room of our hospital for repeated attacks, up to 16 per day. He had a history of excessive alcohol intake intermittently, of frequent headaches, and of occasional severe cramps in his lower legs. He had had no other significant medical or surgical experiences, including head injuries or accidents. It was elicited from him that he took his previously prescribed medicine irregularly and that he continued to imbibe alcohol.

Findings from a physical examination, including a complete neurological survey, were within normal limits. Blood pressure was 128/80 mm Hg. A skull X-ray, an electrocardiogram, and an electroencephalogram showed no abnormalities. Results of the blood chemistry analyses, performed on an automated screening machine (SMA 12/60) were normal.

A regimen of sodium diphenylhydantoin and phenobarbital was prescribed for the father.

Mother. The mother complained chiefly of repeated headaches, attacks of dizziness, and frequent lumbago. She said she had never been hospitalized and had, in fact, never before received medical care. Her family's health history did not add any information of medical signifi-

Examination findings and the family's disease patterns

Conditions and tests	Father 45 years	Mother 44 years	Son 12 years	Daughter A 16 years	Daughter B 7 years
Epilepsy	Yes	No	Yes	No	No
Nutritional findings	Normal	Anemia	Normal	Normal	Anemia, underweight, poorly nourished
Pain	Head, legs	Head, back	Head	Abdomen, joints	Abdomen
Tests:					
Sickledex	Negative	Positive	Positive	Positive	Positive
Hemoglobin by electrophoresis ..	A	A, S	A, S	A, S	A, S
Stool, for parasites	Negative	<i>Trichuris trichiura</i>	<i>Trichuris trichiura</i>	<i>Trichuris trichiura</i> , <i>Enterobius vermicularis</i>	<i>Trichuris trichiura</i> , <i>Ascaris lumbricoides</i>
Urinalysis	Negative	Bacteriuria, 20-30 white blood cells per HPF ¹	3-5 white blood cells per HPF ¹	Bacteriuria, numerous pus cells	Negative
Hematocrit reading (percent) ...	40	36	39	39	34
Eosinophils (percent)	9	3	17	15	19
Other laboratory findings	None	Anisocytosis, poikilocytosis	None	None	Reticulocytes 3 percent
Blood pressure (mm. Hg.)	125/80	100/85	110/80	105/76	112/78
Diagnosis	Epilepsy	Anemia, conjunctivitis, urinary tract infection, sickle cell trait, parasitosis	Epilepsy, urinary tract infection, sickle cell trait, parasitosis	Urinary tract infection, sickle cell trait, parasitosis	Underweight, anemia, parasitosis, sickle cell trait

¹ High power field.

cance. She displayed great anxiety about her husband's attacks and about the family's financial situation.

The physical examination revealed that she was pale and poorly nourished. Her spleen was palpable one finger below the costal margin. She had no symptoms of scleral jaundice. Blood pressure was 100/85 mm Hg. The neurological examination proved the vertigo to be of nonvestibular origin; emotional rather than organic causes were presumed etiological factors.

Laboratory studies (see table) disclosed the following: a positive Sickledex test; hemoglobin A and S, by hemoglobin electrophoresis; bacteriuria; and infestation with *Trichuris trichiura*.

An electrocardiogram, audiometry tests, a chest X-ray, blood chemistry analyses (SMA 12/60), and a thyroid survey showed no abnormalities.

The therapeutic regimen prescribed for the mother included Mintezole, Feosol, Gantanol, and Antivert.

Son. The boy had had numerous seizures in the past 3 years. He had occasional headaches but had no other complaints. He had had no surgery or medical treatment in the past. His birth had been normal as well as his development during childhood.

His immunizations were completed before his first visit to us. The physical examination elicited no abnormal findings. He was a normally developed alert, cooperative child, with a weight of 72

pounds and a height of 55 inches.

Of significance in the laboratory studies were a hematocrit reading of 39 percent, eosinophils 17 percent, a positive Sickledex test, hemoglobin electrophoresis showing hemoglobin A and S, and urine sediment of 3–5 white blood cells per high power field. The stool examination was positive for *T. trichiura*. The boy's electroencephalogram showed no abnormalities.

Because of his history of seizures, we requested our public health nurse to inquire into the child's activities in school. During her conferences with the teacher and other school personnel, she was informed of the boy's withdrawn and somewhat asocial behavior and of his learning difficulties.

Anthelmintic and anticonvulsive drugs were prescribed for the son.

Daughter A. This 16-year-old complained of loss of appetite, being easily fatigued, and having occasional joint and abdominal pains as well as dysmenorrhea. She had had measles and chickenpox in her childhood, and experienced menarche at 12 years. She thought herself to be in perfect health although she had noticed numerous pinworms in stools several months before we examined her. She was a rather thin adolescent with a weight of 91 pounds and a height of 59 inches. There were no other remarkable physical findings.

Laboratory studies (see table) disclosed hemoglobin A and S, bacteriuria, innumerable pus cells in urine sediment, and infestation with pinworms and *T. trichiura*. A chest X-ray and an electrocardiogram showed no abnormalities, and the results of blood chemistry analyses (SMA 12/60) were within normal limits.

Mintezole and Antepar were prescribed for daughter A.

Daughter B. This 7-year-old also had loss of appetite, was easily fatigued, and had occasional abdominal pains. She had not gained weight in 6 months, and she reported she had passed 10 roundworms in 1 month. Her immunization schedule had been completed in Puerto Rico. She was an alert, but thin, underdeveloped child with a weight of 34 pounds and a height of 40 inches. Pallor was noted in the physical examination. Her birth weight was 6 pounds, 7 ounces. Laboratory studies disclosed hemoglobin A and S and infestation with *T. trichiura* (see table).

A high-calorie, high-protein diet and iron and vitamin supplements were prescribed for daughter B as well as Mintezole and piperazine.

Family Disease Patterns

In the table, one can clearly discern certain patterns in the medical picture of the family. Father and son suffer from convulsive seizures. Mother and all children are carriers of the sickle cell trait, combining hemoglobins A and S. Mother and all children suffer from parasitic infestation. Mother and daughter B are undernourished and have anemia. Mother, daughter A, and the son have urinary tract infections. All members of the family complain of "pains."

We believe it is important to look for, identify, and define such patterns in families. We speak of family disease patterns when a parent and at least one child, or two or more children, in a family suffer from the same affliction. One or more disease patterns may occur in the same family.

Family disease patterns vary; their etiology may be hereditary, infectious, or socioeconomic, or have psychogenic components. It is our conviction that such patterns may have a decided influence on the lifestyle and emotional attitude of the group. Recognition of the patterns can help the family physician understand and evaluate the factors and problems which influence the home's emotional atmosphere and the attitudes of family members to each other, to the outside world, on the job, and in school. The physician can then more efficiently and effectively map a course of treatment in the attempt to eliminate interaction or reinfection.

The varied but persistent pain from which all members of this family suffer; the anemia, malnutrition, and sluggishness of some; the worm infestation of four members; and the dramatic epileptic seizures of father and son must have definite and adverse psychological effects on the group, leaving deep marks on the psyche of growing children and diminishing the self-confidence and self-respect of the adults. Add to these, poverty, unemployment, inadequate housing, scant knowledge of English, and the complete lack of a concerned person to help, and the picture of complete hopelessness and helplessness emerges.

When the father came to our office for his epilepsy he found, for the first time in his life, a physician who was willing to take total charge of his family's health needs. It took great patience and the art of medicine to persuade him of our sincere concern and desire to improve his health and his family's, and their lives together.

Team Approach

The treatment of family disease patterns may require more expertise than a single physician will at times be able to provide. We in the department of family practice at Lutheran Medical Center strongly emphasize the team approach in treating many patients. Frequently, the team approach is indispensable because a variety of consultants and disciplines is needed to deal with an array of problems.

The team whose skills our family physicians used to treat the family consisted of a public health nurse, a family health aide, a nutritionist, a homemaker, a medical and a psychiatric social worker, and a clinical psychologist. The family physician, as a team leader, consulted an internist, a pediatrician, a neurologist, and a gynecologist. In addition to diagnosing the illnesses and defining the problems of his patients, the family physician must also direct his team members to specific areas of health assistance.

The health education of his patients is a vital function of the family physician. We devoted considerable time to explaining their problems to these patients. We believe strongly that an understanding of his condition can be a prime factor in motivating a patient to follow his physician's prescription and persist in a course of treatment.

Our attitude was a first experience for the family; never before had they obtained the services of a family physician, concerned with and interested in all aspects of the health of all members, who was aided by the expertise of specialists in various fields in a continuous attempt to improve their lives.

Team Conference

We thought it best to coordinate efforts and eventually called a team conference to which the team leader, Huang, invited other family physi-

cians in the residency program as well as an internist, a pediatrician, and our allied medical personnel. After reviewing the medical approach, we invited everybody to contribute thoughts and ideas about the best total management of the family. We have found such team conferences extremely helpful in our holistic and multidisciplinary approach. We remain, however, at all times acutely aware that it is the patient's primary physician to whom he relates and who interprets to him the course of treatment. Furthermore, we conduct and structure the team conferences so that the family physician is the coordinator of all available services.

The following questions were discussed at the conference.

1. Does the father's epilepsy interfere with his chances for employment?
2. Do his disease and unemployment affect his attitudes toward his family, his community?
3. What is the best way to control his alcohol habit?
4. To what degree does the son's epilepsy interfere with his school activities and with his social integration in school?
5. Are his teachers aware of his problems?
6. How can we help to make the teachers responsive to his needs?
7. Can his behavior pattern be improved?
8. To what degree are the various illnesses responsible for tension in the family?
9. Is there a feeling of frustration?
10. What can be done to improve housing and financial resources for this family?
11. How can employment be secured?
12. How can the family be motivated to learn English for better integration in society?
13. How can the family's personal and environmental hygiene be improved?
14. To what extent can social service and the pastoral department be of help to the family?

During several followup conferences we set priorities for care so as not to overwhelm the family with too many sudden changes. The feedback of information from the various team members enabled us to coordinate efforts and to set priorities.

Problem Solving

By identifying the disease patterns in this family and working through a team approach and conferences, we were finally able to provide total continuous health care to these five people. How

we addressed each disease pattern and its solution follow.

Epilepsy. The father had to be made aware of the adverse effect of alcohol on his seizures and impressed with the necessity of taking medication regularly. He needed employment and was directed to an office for vocational rehabilitation. The stigma of "fits" that caused uncertainty and interruptions in his daily life and loss of self-confidence had to be removed from his mind. The whole family needed relief from the continuous tension, fear, and bewilderment which resulted from the frequent, unexplained, and not understood seizures.

The school nurse, and through her the son's teacher, had to be apprised of the reason for the son's asocial behavior, shyness, withdrawn attitude, and lack of ability to concentrate on his studies, which were to a considerable extent caused by his epilepsy and other conditions (4).

Worm infestation. The greatest problem that confronted us was the need for patient but persistent education of the family in personal hygiene measures in order to avoid reinfection or parasitic cross-infection. They had to understand our insistence on the simultaneous antihelminthic treatment of all infected family members and the importance of regular followup visits and stool examinations.

Anemia and malnutrition. To implement the medical regimen, the center's nutritionist spent a great deal of time with the mother. She explained the nutritional value of different foods and appropriate ways to prepare balanced meals with the available funds. A homemaker accompanied the mother on several trips to the supermarket to help her select food and subsequently to advise and aid her in ways to prepare nutritious meals.

Urinary tract infections. We impressed on the family the need for regular and prolonged medication to treat the urinary tract infections. We emphasized the need for followup care and the proper method of obtaining urine samples for examination. We explained the possibility of chronic complications due to incomplete therapy.

Sickle cell disease. We attempted in the simplest possible words to explain to the family the meaning of sickle cell anemia and the sickle cell trait and what preventive measures may possibly apply to them.

Results and Conclusions

Recognition of the disease patterns of the family and employment of the team approach resulted in the eradication of the parasitosis and urinary tract infections of the mother and children. But control of the father's and son's epilepsy has had the greatest impact. Educating and motivating them and directing the father to occupational training had important payoffs. We were gratified to observe changes in attitude, increasing self-confidence, and the relaxation of tension in the family. These changes occurred after a 6-month period.

Similarly beneficial, although not immediately apparent, was the help given the son. The conversations with the school nurse appear to have been helpful; his behavior in school became less self-effacing and more integrated with that of the other children. No improvements in his scholastic achievements have been noticed yet.

Efforts to improve the anemia and undernourishment of the mother and daughter B continue.

We found a family in health crises and unable to locate the services that would lead them to physical and emotional recovery. We believe that the traditional methods of treating individual illnesses would have failed to restore the family's total health.

As family physicians, we offered them comprehensive, integrated care. We attempted to discern patterns of illness in this family and enlisted the help of medical specialists and allied medical personnel. Our concept of total health encompasses not only physical well-being and the absence of actual illness but also emotional health, proper nutrition, adequate housing, ability to earn a livelihood, a sense of self-respect and dignity, and integration into society.

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